Jan 2013 - Oklahoma City
Minor injuries - One home destroyed, many others damaged
No basement, no sewer line breach found
Sub-contractor installing telecom lines parallel to gas line
Feb 2013 -- Detroit
One death -- Two or three homes destroyed, many others damaged
Basement, no sewer line breach (sewer lines in the alley)
Gas company crossing service lines with new main, report states that service lines at crossings were not exposed
Graphic: Fatal error in Royal Oak house explosion

FATAL ERROR

Consumers Energy crews working to replace a natural gas main in Royal Oak on Feb. 27 failed to follow state and federal gas safety regulations and expose the areas where their horizontal drilling passed existing underground service lines.

Here is how horizontal drilling works and where the safety step called potholing was left out.

1. GETTING STARTED: A guided boring machine pushes a spinning drill bit into the ground, starting a path for a new gas pipe.

2. GUIDING THE BORE
   The drill head sends positioning signals to workers at the surface who guide the drill around obstacles.

3. BORING STEP
   Drilling where the bore passes underground lines, known as potholing, is required in order to allow crews to see that their rotating drill bit is passing safely. This was not done properly on Cooper Avenue on Feb. 27, according to Consumers Energy officials.

4. DAMAGED PIPE
   A steel natural gas service line at 4322 Cooper Ave. was damaged, causing gas to migrate into the nearby home and leading to an explosion that killed its owner.

HOW EVENTS UNFOLDED

These are the events that led to the house explosion and death of Daniel Maksynski, 58, according to the report.

6:30 P.M. Consumers Energy crew members working to install a new gas main smelled natural gas and knocked on the front door of the nearest home, where Maksynski lived. There was no answer. Theesseract crew reported the gas leak and left the site, while Consumers sent a gas service worker to respond to the leak.

7:27 P.M. The house at 4322 Cooper Ave. exploded, killing Maksynski and damaging dozens of homes.

8:15 A.M. A Consumers Energy manager arrived on the scene after finding the Royal Oak Service Center closed. The gas service worker dispatched to check out the gas leak arrived at 5:29 a.m.
Feb 2013 -- Kansas City
One death, multiple serious injuries -- Business destroyed, many buildings damaged
Basement unknown, sewer lines unknown
Contractor installing telecom line across gas line, according to official report the contractor assumed locates were off when they found two lines together that had been marked as one.
Mar 2013 -- Grand Junction, CO
At least 3 people injured – 2 homes destroyed
Sub-contractor reportedly struck a gas line that was beneath a located gas line determined to be abandoned


Feb 2014 -- St Louis, MO
No injuries (14 people evacuated less than 1 min prior to explosion) -- Building destroyed
Sub-contractor installing telecom lines, crossed a gas service line, snow on the ground covered locates
Mar 2014 -- Ewing, NJ
1 death, multiple injuries -- Building complex destroyed
Details unknown